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Subject: R9 8/26 & 8/27 Surface Water Data to load
[R09_SurfaceWater_Summary Table 08312015.xlsx](#)

Human Health and Navajo Nation Agricultural & Livestock Water Screening

Attached please find validated data on metals concentrations in San Juan River surface water samples collected on 8/26/15 & 8/27/15. Data are the spreadsheet R09_SurfaceWater_Summary Table 08312015.

Human Health:

The reported data for dissolved and total concentrations on metals in surface water was compared to the health-based screening levels for a 64-day recreational exposure developed by R8 for this incident; the dissolved metals concentrations were also compared to federal MCLs. **There were a number of human health screening level exceedances, mainly on the reach of the river between Farmington and Four Corners:**

Aluminum: Total aluminum exceeded the R8 Recreational RSL (170,000 ug/L) at SJLP, SJHB (2 samples) and SJSR, ranging 210,000 – 310,000 ug/L (all on 8/27/15). There were no exceedances by dissolved aluminum.

Arsenic: Total arsenic exceeded the R8 Recreational RSL (50 ug/L) at SJHB (2 samples) and SJSR, ranging 53-65 ug/L (all on 8/27/15). There were no exceedances by dissolved arsenic. There was also an exceedance of the MCL (10 ug/L) by dissolved arsenic at SJLP (11 ug/L) on 8/27/15 [total arsenic is not screened against the MCL].

Cobalt: Total cobalt exceeded the R8 Recreational RSL (50 ug/L) at SJLP, SJHB (2 samples), SJSR and SJ4C ranging 62-160 ug/L (all on 8/27/15). There were no exceedances by dissolved cobalt.

Iron: Total iron exceeded the R8 Recreational RSL (120,000 ug/L) at SJLP, SJHB (2 samples), SJSR and

SJ4C ranging 130,000-290,000 ug/L (all on 8/27/15). There were no exceedances by dissolved iron.

Lead: Total lead exceeded the R8 Recreational RSL (200 ug/L) at SJHB (2 samples) and SJSR ranging 250-290 ug/L (all on 8/27/15). There were no exceedances by dissolved lead. There was also an exceedance of the MCL (15 ug/L) by dissolved lead at SJLP (33 ug/L) on 8/27/15 [total lead is not screened against the MCL].

Manganese: Total manganese exceeded the R8 Recreational RSL (7,800 ug/L) at SJHB (2 samples) and SJSR, ranging 8,700-10,000 (all on 8/27/15). There were no exceedances by dissolved manganese.

Thallium: Total thallium exceeded the R8 Recreational RSL (2 ug/L) at SJHB (2 samples) and SJSR, all 3 samples measuring 3 ug/L on 8/27/15. There were no exceedances by dissolved thallium.

Navajo Nation Agricultural & Livestock Screening Levels:

The reported dissolved and total concentrations for metals in surface water was compared to current Agricultural and Livestock Watering screening levels developed by the Navajo Nation Water Quality Program. **Two metals exceeded applicable Navajo Nation Agricultural or Livestock Water screening levels on 8/27/15:**

On 8/27/15, dissolved aluminum exceeded the Navajo Nation Agricultural Water screening level (5,000 ug/L, dissolved) at SJLP (53,000 ug/L) and SJME (7,800 ug/L) – note that SJME is not along the reach between Farmington and Four Corners.

On 8/27/15, total lead exceeded the Navajo Nation Livestock Water screening level (100 ug/L) at SJLP, SJHB (2 samples), SJSR and SJ4C, ranging 120-290 ug/L; there were no exceedances by dissolved lead.

All other metals concentrations (both dissolved and total) in San Juan River surface water were at or below applicable Navajo Nation Agricultural and Livestock water screening levels on both 8/26/15 and 8/27/15.

Sample location Legend:

San Juan River (upstream to downstream):

SJLP (Farmington, NM)

SJFP (between Farmington & Hogback)

SJHB (Hogback)

SJSR (Shiprock)

SJDS (between Shiprock & Four Corners)

SJ4C (Four Corners)

MECT (McElmo Creek before confluence with SJR)

SJME (SJR after McElmo Creek confluence)

SJMC (Montezuma Creek)

SJBB (Bluff/Butler)

SJMH (Mexican Hat)

SJPF (SJR confluence with Lake Powell)

Please contact me if you have any questions

Pete Guria, Deputy Area Commander

GKM Response

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